



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/553,143	04/20/2000	Philip L. Swan	0100.0000230	4441

7590 09/29/2003

Markison & Reckamp P C
P O Box 06229
Wacker Drive
Chicago, IL 60606-0229

EXAMINER

TRAN, TRANG U

ART UNIT

PAPER NUMBER

2614

DATE MAILED: 09/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/553,143

Applicant(s)

SWAN ET AL.

Examiner

Trang U. Tran

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-9, 11-15 and 17-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-9, 11-15 and 17-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 11, 2003 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 2-9, 11-15 and 17-26 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-9, 11-15 and 17-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herrera (US Patent 6,208,350 B1) in view of Sid-Ahmed (US 5,621,470).

In considering claim 24, Herrera discloses all the claimed subject matter, noted
1) the claimed receiving at least one instruction for a 2-D/3-D engine to facilitate creation of an adaptive de-interlaced frame image at least a first interlaced field is met

by the 3D engine (col. 10, lines 16-49), 2) the claimed performing, by the 2-D/3-D engine, at least a portion of adaptive de-interlaced in response to the at least one instruction; and wherein the first interlaced field is alternating lines of the interlaced video is met by col. 9, lines 55-60. However, Herrera does not particularly disclose the claimed the 2-D/3-D engine is used for adaptively de-interlacing frame image from at least only a first interlaced field.

Sid-Ahmed teaches an apparatus using 3-D interpolation for increasing the number of pixels per horizontal line, increasing the number of horizontal lines, and doubling the number of frames per second at the receiver without requiring changes to the transmission standard (col. 1, lines 56-61 and col. 2, line 64 to col. 3, line 59)

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the 3-D interpolation as taught by Sid-Ahmed into Herrera's system in order to display the video signal in NTSC on the progressive scanning display device without flicker.

In considering claim 2, the claimed storing the at least portion of the adaptively de-interlaced frame image for display is met by the buffer 56 of Herrera (col. 10, line 52 to col. 11, line 4).

In considering claim 3, the claimed retrieving, by a graphics processor display engine, the stored adaptively de-interlaced frame image for display on at least one display device is met by the memory controller 94 of Herrera (col. 10, line 52 to col. 11, line 4).

In considering claim 4, the combination of Herrera and Sid-Ahmed discloses all the limitations of the claimed invention as discussed in claim 1 above except for providing that wherein the step of performing adaptive de-interlacing by the 2-D/3-D engine includes executing 2D/3D instructions that result in performing median filtering.

The capability of median filtering the video signal to improve the quality of the video signal is old and well known in the art and therefore Official Notice is taken.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the well known median filter into Herrera's system in order to increase the quality of the video signal to be displayed.

In considering claim 5, the combination of Herrera and Sid-Ahmed discloses all the limitations of the claimed invention as discussed in claim 1 above except for providing wherein the step of performing adaptive de-interlacing by the 2-D/3-D engine includes executing 2D/3D instructions that result in performing spatio-temporal filtering.

The capability of spatio-temporal filtering the video signal to improve the quality of the video signal is also old and well known in the art and Official Notice is taken again.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the well known spatio-temporal filter into Herrera's system in order to increase the quality of the video signal to be displayed.

In considering claim 6, the claimed controlling the 2-D/3-D engine to perform the adaptive de-interlacing prior to display by a display engine is met by the 3D engine of Herrera, col. 10, lines 16-49.

In considering claim 7, the claimed issuing 2D/3D instructions to the 2D/3D engine to carry out de-interlacing of lines of video data from interlaced fields is met by the 3D engine of Herrera, col. 10, lines 16-49.

In considering claim 8, the claimed wherein the at least one instruction includes at least of a: line inverting instruction, a scaling instruction and a blend instruction is met by the 3D engine of Herrera, col. 10, lines 44-49.

In considering claim 9, the claimed determining whether the at least one instruction is for the 2-D/3-D engine or for a display engine is met by the graphics accelerator 54 of Herrera, col. 10, line 52 to col. 11, line 17.

Claim 25 is rejected for the same reasons as discussed in claims 24, 3 and 9 above.

Claim 11 is rejected for the same reasons as discussed in claim 2 above.

Claim 12 is rejected for the same reasons as discussed in claim 5 above.

Claim 13 is rejected for the same reasons as discussed in claim 6 above.

Claim 14 is rejected for the same reasons as discussed in claim 7 above.

Claim 15 is rejected for the same reasons as discussed in claim 8 above.

Claim 26 is rejected for the same reasons as discussed in claim 24 above.

Claims 17-19 are rejected for the same reason as discussed in claims 2-4, respectively.

Claims 20-23 are rejected for the same reason as discussed in claims 6-9, respectively.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Trang U. Tran** whose telephone number is **(703) 305-0090**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **John W. Miller**, can be reached at **(703) 305-4795**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231


or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

TT TT
September 22, 2003


MICHAEL H. LEE
PRIMARY EXAMINER